

Patent claims

1. A device for compressing gaseous media, comprising
at least one compression space (10) into which the
5 gaseous medium can enter and from which the gaseous
medium can discharge;
a first valve means (13, 7) having at least one first
opening (13) and at least one first covering means (7)
essentially covering the first opening at least
10 intermittently, the first valve means allowing the
gaseous medium to enter the compression space (10) and
essentially preventing a discharge of the gaseous medium
from the compression space (10);
a second valve means (4, 8) having at least one second
15 opening (4) and at least one second covering means (8)
essentially covering the second opening at least
intermittently, the second valve means allowing a
discharge of the gaseous medium from the compression
space (10) and essentially preventing the gaseous medium
20 from entering the compression space (10);
characterized in that the narrowest free cross section of
one valve means considerably exceeds the narrowest free
cross section of the other valve means.
- 25 2. The device as claimed in claim 1, characterized in
that the narrowest free cross section of the first valve
means (13, 7) considerably exceeds the narrowest free
cross section of the second valve means (14, 8).
- 30 3. The device as claimed in at least one of the
preceding claims, characterized in that the narrowest

free cross section of the one valve means exceeds the narrowest free cross section of the other valve means at least by a factor of 2.

5 4. The device as claimed in at least one of the preceding claims, characterized in that the device has a piston means arranged so as to be movable relative to the compression space (10).

10 5. The device as claimed in at least one of the preceding claims, characterized in that at least one covering means is designed as a reed.

15 6. The device as claimed in at least one of the preceding claims, characterized in that at least one valve means is arranged in a valve plate (2), and preferably both valve means are arranged in said valve plate (2).

20 7. The device as claimed in at least one of the preceding claims, characterized in that the first opening (13) of the first valve means is designed to be noncircular.

25 8. The device as claimed in at least one of the preceding claims, characterized in that the first valve means has a plurality of first openings.

30 9. The device as claimed in at least one of the preceding claims, characterized in that the periphery of the at least one first opening (13) of the first valve means is greater than the periphery of the at least one

second opening of the second valve means.

10. The device as claimed in at least one of the preceding claims, characterized in that the at least one
5 opening (13) of the first valve means, compared with an imaginary circular opening which has the same cross-sectional area as the at least one first opening, has a periphery which exceeds the periphery of said imaginary circular opening by at least 10%, preferably by at least
10 20% and in particular preferably by at least 50%.

11. The device as claimed in at least one of the preceding claims, characterized in that at least one covering means, preferably the covering means of the
15 first valve means, has at least one aperture.

12. The device as claimed in at least one of the preceding claims, characterized in that at least one covering means, preferably the covering means (7) of the
20 first valve means, has at least one projection.

13. The device as claimed in at least one of the preceding claims, characterized in that at least one covering means (7, 8) is fastened to the valve plate.
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14. The device as claimed in at least one of the preceding claims, characterized in that the configuration of at least one covering means (7, 8) is adapted to the configuration of the opening (13, 4) assigned to this
30 covering means.

15. The device as claimed in at least one of the

preceding claims, characterized in that the peripheral margins of at least one covering means project beyond the peripheral margins of the associated opening by between 0.5 mm and 5 mm, preferably by 1 mm to 3 mm.

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16. The device as claimed in at least one of the preceding claims, characterized in that at least one opening has a peripherally encircling groove.

10 17. The device as claimed in at least one of the preceding claims, characterized in that the valve plate has at least one surface section having a coating which is deformable at least in sections.

15 18. The device as claimed in at least one of the preceding claims, characterized in that at least one covering means has at least one surface section having a coating which is deformable at least in sections.

20 19. The device as claimed in at least one of the preceding claims, characterized in that the coating has a material which contains Teflon.

20. The device as claimed in at least one of the
25 preceding claims, characterized in that, in the open state of the valve, at least a section of at least one covering means is at a distance from its assigned opening which is greater than 0.5 mm, preferably greater than 1.0 mm, and in particular greater than 1.5 mm.

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21. The use of a device as claimed in at least one of the preceding claims in an air-conditioning system, in

- 26 -

particular for a motor vehicle.